



031904

10834 U.S. PTO

PTO/SB/05 (01-04)

Approved for use through 07/31/2006. OMB 0651-0032  
U.S. Patent and Trademark Office. U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UTILITY  
PATENT APPLICATION  
TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No. 1875.4110001

First Inventor Pullen et al.

Title System, Method, And Computer Program Product For In-Place,  
Lightweight Ack Promotion In A Cable Modem Environment

Express Mail Label No.

22390 U.S. PTO  
10/804133

031904

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

## ADDRESS TO:

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
2. ☐ Applicant claims small entity status.  
See 37 CFR 1.27.
3. ☒ Specification [Total Pages 20]  
(preferred arrangement set forth below)  
- Descriptive title of the invention  
- Cross Reference to Related Applications  
- Statement Regarding Fed sponsored R & D  
- Reference to sequence listing, a table,  
or a computer program listing appendix  
- Background of the Invention  
- Brief Summary of the Invention  
- Brief Description of the Drawings (if filed)  
- Detailed Description  
- Claim(s)  
- Abstract of the Disclosure
4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 4]
5. Oath or Declaration [Total Sheets 3]  
a. ☒ Newly executed (original or copy)  
b. ☐ Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional with Box 18 completed)  
i. ☐ DELETION OF INVENTOR(S)  
Signed statement attached deleting inventor(s)  
name in the prior application, see 37 CFR  
1.63(d)(2) and 1.33(b).
6. ☒ Application Data Sheet. See 37 CFR 1.76

7. ☐ CD-ROM or CD-R in duplicate, large table or  
Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission  
(if applicable, all necessary)  
a. ☐ Computer Readable Form (CRF)  
b. Specification Sequence Listing on:  
i. ☐ CD-ROM or CD-R (2 copies); or  
ii. ☐ Paper  
c. ☐ Statements verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

9. ☒ Assignment Papers (cover sheet & document(s))  
37 CFR 3.73(b) Statement ☐ Power of  
(when there is an assignee) Attorney  
11. ☐ English Translation Document (if applicable)  
12. ☐ Information Disclosure ☐ Copies of IDS  
Statement (IDS)/PTO-1449 Citations  
13. ☐ Preliminary Amendment  
14. ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)  
15. ☐ Certified Copy of Priority Document(s)  
(if foreign priority is claimed)  
16. ☐ Nonpublication Request under 35 U.S.C. 122  
(b)(2)(B)(i). Applicant must attach form PTO/SB/35  
or its equivalent.  
17. ☒ Other: Authorization under 37CFR 1.136(a)(3)  
The name of the assignee is: Broadcom Corporation

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the  
specification following the title, or in an Application Data Sheet under 37 CFR 1.76:☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: .....

Prior application information: Examiner (to be assigned) Art Unit: (to be assigned)

For CONTINUATION OF DIVISIONAL APPS only; The entire disclosure of the prior application, from which an oath or declaration is supplied under Box  
5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference.  
The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

## 19. CORRESPONDENCE ADDRESS

☒ Customer Number: 26111 OR ☐ Correspondence address below

Name

Address

City

State

Zip Code

Country

Telephone

Fax

Name (Print/Type) Kendrick P. Patterson

Registration No. (Attorney/Agent)

45,321

Signature

Date

3-19-2004

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the  
USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete,  
including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments  
on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent  
and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS  
ADDRESS. SEND TO: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

18334 U.S. PTO  
031904

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 810.00

## Complete if Known

Application Number	(to be assigned)
Filing Date	(herewith)
First Named Inventor	David Pullen
Examiner Name	(to be assigned)
Art Unit	(to be assigned)
Attorney Docket No.	1875.4110001

## METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit card ☐ Money Order ☒ Other\*\* ☐ None

☐ \*\*Charge any deficiencies or credit any overpayments in Deposit Account: the fees to Deposit Acct. No. 19-0036

Deposit Account Number: 19-0036  
Deposit Account Name: Sterne Kessler, Goldstein & Fox P.L.L.C.

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Credit any overpayments

☐ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	\$770.00
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1) (\$)			770.00

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims 19 - 20 \*\*= 0 X Fee from below = Fee Paid  
Independent Claims 3 - 3 \*\*= 0 X  
Multiple Dependent

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 86	2201 43	Independent claims in excess of 3
1203 290	2203 145	Multiple dependent claim, if not paid
1204 86	2204 43	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

\*\*or number previously paid, if greater, For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	\$40.00
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	
Other fee (specify)			
*Reduced by Basic Filing Fee Paid			
SUBTOTAL (3) (\$)			40.00

## SUBMITTED BY

(Complete (if applicable))

Name (Print/Type)	Kendrick P. Patterson	Registration No. (Attorney/Agent)	45,321	Telephone	(202) 371-2600
Signature	<i>K. Patterson</i>	Date	03-19-2004		

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Robert Greene Sterne  
Edward J. Kessler  
Jorge A. Goldstein  
David K.S. Cornwell  
Robert W. Esmond  
Tracy-Gene G. Durkin  
Michele A. Cimbala  
Michael B. Ray  
Robert E. Sokohl  
Eric K. Steffe  
Michael Q. Lee  
Steven R. Ludwig  
John M. Covert  
Linda E. Alcorn  
Robert C. Millonig  
Donald J. Featherstone  
Lawrence B. Bugaisky  
Michael V. Messinger

Judith U. Kim  
Timothy J. Shea, Jr.  
Patrick E. Garrett  
Heidi L. Kraus  
Edward W. Yee  
Albert L. Ferro\*  
Donald R. Banowitz  
Peter A. Jackman  
Teresa U. Medler  
Jeffrey S. Weaver  
Kendrick P. Patterson  
Vincent L. Capuano  
Eldora Ellison Floyd  
Thomas C. Fiala  
Brian J. Del Buono  
Virgil Lee Beaston  
Kimberly N. Reddick  
Theodore A. Wood

Elizabeth J. Haanes  
Joseph S. Ostroff  
Frank R. Cottingham  
Christine M. Lhuillier  
Rae Lynn Prengaman  
Jane Shershenovich\*  
George S. Bardmesser  
Daniel A. Klein\*  
Jason D. Eisenberg  
Michael D. Specht  
Andrea J. Kamage  
Tracy L. Muller\*  
LuAnne M. DeSantis  
John J. Figueroa  
Ann E. Summerfield  
Tiera S. Coston  
Aric W. Ledford\*  
Jessica L. Parezo

Timothy A. Doyle\*  
Gaby L. Longworth\*  
Nicole D. Dreter\*  
Ted J. Ebersole  
Jyoti C. Iyer\*  
**Registered Patent Agents\***  
Karen R. Markowicz  
Nancy J. Leith  
Helene C. Carlson  
Matthew J. Dowd  
Aaron L. Schwartz  
Katrina Y. Pei Quach  
Bryan L. Skelton  
Robert A. Schwartzman  
Teresa A. Colella  
Jeffrey S. Lundgren  
Victoria S. Rutherford

Eric D. Hayes  
Michelle K. Holoubek  
Robert H. DeSelms  
Simon J. Elliott  
Julie A. Heider  
Mita Mukherjee  
Scott M. Woodhouse

**Of Counsel**  
Kenneth C. Bass III  
Evan R. Smith  
Marvin C. Guthrie

\* Admitted only in Maryland  
\* Admitted only in Virginia  
\* Practice Limited to Federal Agencies

March 19, 2004

**WRITER'S DIRECT NUMBER:**  
(202) 772-8628  
**INTERNET ADDRESS:**  
KENDRICK@SKGF.COM

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

**Mail Stop Patent Application**

Re: U.S. Non-Provisional Utility Patent Application under 37 C.F.R. § 1.53(b)  
Appl. No. (to be assigned); Filed: (herewith)  
For: **System, Method, And Computer Program Product For In-Place,  
Lightweight Ack Promotion In A Cable Modem Environment**  
Inventors: Pullen *et al.*  
Our Ref: 1875.4110001

Sir:

The following documents are forwarded herewith for appropriate action by the U.S. Patent and Trademark Office:

1. PTO Fee Transmittal (Form PTO/SB/17);
2. PTO Utility Patent Application Transmittal (Form PTO/SB/05);
3. U.S. Utility Patent Application entitled:

**System, Method, And Computer Program Product For In-Place, Lightweight  
Ack Promotion In A Cable Modem Environment**

and naming as inventors:

**David Pullen  
Rick Pitchford  
Dannie Gay  
John Horton**

the application consisting of:

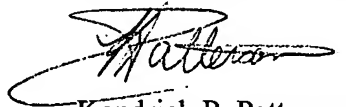
- a. An Application Data Sheet (37 C.F.R. § 1.76);

- b. An original executed Declaration;
  - c. A specification containing:
    - i. 15 pages of description prior to the claims;
    - ii. 4 pages of claims (19 claims);
    - iii. a one (1) page abstract;
  - d. 4 sheets of drawings: (Figure(s) 1-4);
- 4. Authorization to Treat a Reply As Incorporating An Extension of Time Under 37 C.F.R. § 1.136(a)(3);
  - 5. Recordation Form Cover Sheet;
  - 6. An original executed Assignment to Broadcom Corporation, recordation of which is hereby respectfully requested;
  - 7. Two (2) return postcards; and
  - 8. Form PTO-2038 Credit Card Payment Form.

It is respectfully requested that, of the two attached postcards, one be stamped with the filing date of these documents and returned to our courier, and the other, prepaid postcard, be stamped with the filing date and unofficial application number and returned as soon as possible. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Kendrick P. Patterson  
Attorney for Applicants  
Registration No. 45,321

KPP/sjc  
242245\_1.DOC



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Pullen *et al.*

Appl. No.: (to be assigned)

Filed: (herewith)

**For: System, Method, And Computer  
Program Product For In-Place,  
Lightweight Ack Promotion In A  
Cable Modem Environment**

Confirmation No.: (to be assigned)

Art Unit: (to be assigned)

Examiner: (to be assigned)

Atty. Docket: 1875.4110001

**Authorization to Treat a Reply as Incorporating an  
Extension of Time Under 37 C.F.R. § 1.136(a)(3)**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

The U.S. Patent and Trademark Office is hereby authorized to treat any concurrent or future reply that requires a petition for an extension of time under this paragraph for its timely submission, as incorporating a petition for extension of time for the appropriate length of time. The U.S. Patent and Trademark Office is hereby authorized to charge all required extension of time fees to our Deposit Account No. 19-0036, if such fees are not otherwise provided for in such reply.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Kendrick P. Patterson  
Attorney for Applicants  
Registration No. 45,321

Date: March 19, 2004

1100 New York Avenue, N.W.  
Washington, D.C. 20005-3934  
(202) 371-2600

242251\_1.DOC